

Serial No.: 10/088,988

IN THE SPECIFICATION:

Please replace the phrase at page 1, lines 4 and 5, with the following rewritten phrase:

– Method and Apparatus for Processing Conditional Jump Instructions By Means of Pre-conditions and Post-conditions in a Processor With Pipelined Architecture –

Please replace the paragraph beginning at page 1, line 25, with the following rewritten paragraph:

-- It is possible, in particular, in such a pipelined architecture for a conditional jump instruction (branch) to lead to what is termed a ~~hazard~~ hazard, as a result of which it is even possible for wrong results to be produced. Specifically, in the case of a conditional jump instruction, the address of the next instruction is not fixed until after processing of this conditional jump instruction. In this way, therefore, the next instruction can be requested from the memory and decoded only once the result of the execution of the preceding instruction is available from the arithmetic-logic unit of the processor. --

Please insert the following paragraph after line 6 of page 2:

-- M.J. Mahon et al.: "Hewlett-Packard Precision Architecture: The Processor" Hewlett Packard Journal, Hewlett-Packard Co., Palo Alto, U.S., Vol. 37, No. 8, August 1, 1986 (1986-08-01), pages 4-22, XP000211314 disclose, inter alia, that in the case of the execution of a branching instruction or jump instruction in a processor with

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pipeline processing of the instructions, a delay instruction is inserted following the jump instruction in order to permit the calculation of a jump destination address before a destination instruction of the jump is loaded, or the program flow runs further to the destination instruction. The delay instruction is not executed if the same is canceled by nullification by the immediately preceding jump instruction. In the case of nullification, an instruction that immediately follows a jump instruction is executed as NOP. All jump instructions have for this purpose a 1-bit nullification field that controls the nullification and thus the activation or deactivation of the delay instruction as a function of a jump instruction, in order to optimize the use of the delay instruction in jump instructions. - -

Please delete the sentence on page 2, lines 35 and 36.

Please replace the paragraph beginning at page 2, line 29, with the following rewritten paragraph:

- - It is particularly preferred in this case that in addition the appropriate jump address is added to each instruction according to which a conditional jump is to be executed. In this way, it is not only ~~[[is]]~~ known an instruction ~~known~~ earlier as to whether a conditional jump is to be carried out or not, but the corresponding new destination address is already known. The correct instruction can therefore already be requested from the main memory of the processor. - -

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Please replace the paragraph beginning at page 5, line 19, with the following rewritten paragraph:

- - However, this pipelined architecture of the processor leads to problems whenever conditional jump instruction are to be executed. This problem is termed "branch ~~harzard~~ hazard" in technical language. This means that a branch Instruction, that is to say a conditional jump instruction, can show whether the next instruction is to be further processed or a jump is to be made to another destination address only after execution of the preceding instruction. - -

Please replace the paragraph beginning at page 7, line 5, with the following rewritten paragraph:

- - In accordance with the prior art, there has thus so far not been any suitable solution to this problem, that such a branch ~~harzard~~ hazard, that is to say a problem with the conditional branching, has effected a loss in working cycles of the processor in pipelined architecture. According to the invention, this problem is now solved by means of a combination of an instruction with "conditional execution" and a "jump arithmetic" instruction, as follows: - -

Please delete the sentence at page 8, lines 1-14.

Please delete the paragraphs and sentence beginning at page 9, line 1, and ending at page 10, line 2.

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Please replace the sentence beginning at page 10, line 28, with the following rewritten sentence:

- - The typical solution for avoiding the branch ~~hazard~~ hazard is based on predicting the expected jump destination of the conditional jump. - -